AMENDMENTS TO THE CLAIMS

1. (currently amended) A method ~~for~~ of forecasting business volume and workforce requirements with the aid of a computer system, comprising:

defining a business structure in the computer system;

defining a forecast structure in the computer system, wherein certain hierarchical levels of the forecast structure map to corresponding hierarchical levels in the business structure; ~~and~~

forecasting business volume in the computer system for a predefined duration, responsive to a first set of historical data, and to the business and forecast structures;

forecasting a traffic pattern in the computer system for the predefined duration, responsive to a second set of historical data; and

calculating workforce requirements in the computer system for the predefined duration, based on the forecast business volume and on the forecast traffic pattern,

wherein the step of calculating workforce requirements includes resource leveling, and

wherein the step of resource leveling comprises

determining valleys in a preliminary schedule,

ranking the valleys,

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assigning at least one unassigned task to a highest-ranked valley, and

repeating the steps of determining peaks, determining valleys, ranking the valleys and assigning at least one unassigned task.

2. (original) The method of Claim 1, wherein a portion of the first set of historical data is by day.

3. (original) The method of Claim 1, wherein a first portion of the first set of historical data is by period.

4. (original) The method of Claim 3, wherein a period is fifteen minutes.

5. (original) The method of Claim 4, wherein a second portion of the first set of historical data is by day.

6. (original) The method of Claim 1, wherein forecasting business volume comprises using a daily trend forecasting algorithm.

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7. (original) The method of Claim 1, wherein forecasting business volume comprises using an exponential smoothing algorithm.

8. (original) The method of Claim 1, wherein forecasting business volume comprises forecasting daily quantities over a predefined duration.

9. (original) The method of Claim 1, wherein forecasting business volume is performed at plural levels of the forecast structure.

10. (original) The method of Claim 1, wherein at least one hierarchical level of the forecast structure which maps to a corresponding hierarchical level in the business structure is location.

11. (currently amended) The method of Claim 10, further comprising subdividing in the computer system a location into a plurality of sub-locations.

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12. (original) The method of Claim 1, wherein at least one hierarchical level of the forecast structure which maps to a corresponding hierarchical level in the business structure is department.

13. (original) The method of Claim 1, wherein at least one hierarchical level of the forecast structure which maps to a corresponding hierarchical level in the business structure is job.

14. (original) The method of Claim 1, wherein the certain hierarchical levels in the forecast structure are at different depths within the forecast structure than the corresponding hierarchical levels in the business structure.

15. (canceled)

16. (original) The method of Claim 15, wherein the second set of historical data is independent of the first set.

17. (original) The method of Claim 15, wherein the first and second sets of historical data overlap.

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18. (original) The method of Claim 15 wherein the forecast traffic pattern is a composite of historical data from a plurality of selected dates.

19. (currently amended) The method of Claim 18, wherein the selected dates are selected by:

finding in the computer system a predetermined number of dates which best match designated criteria.

20. (currently amended) The method of Claim 19, wherein designated criteria include same day of week, nearest day, event ratio and same open/close time, further comprising:

assigning in the computer system a weight to each criterion.

21. (canceled)

22. (original) The method of Claim 21, wherein calculating workforce requirements includes task level consolidation.

23. (original) The method of Claim 22, wherein task level consolidation comprises:

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scheduling specific tasks within a job, wherein each task is associated with a standard; and

consolidating the scheduled tasks into a job schedule.

24. (original) The method of Claim 23, wherein a decision to apply a standard is based on economy of scale.

25. (canceled)

26. (canceled)

27. (currently amended) The method of Claim ~~26~~1, wherein the valleys are ranked based on their depth and width.

28. (currently amended) The method of Claim 27, wherein each valley's ~~ranked~~ rank is computed as (D/W)*C, wherein

D is the valley's depth;

W is the valley's width; and

C is the valley's rounding cost.

29. (currently amended) The method of Claim ~~26~~1, further comprising:

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determining in the computer system peaks in the preliminary schedule, wherein determining valleys is responsive to the determined peaks.

30. (currently amended) The method of Claim ~~26~~1, wherein the at least one unassigned task is assigned to a lowest portion of the highest-ranked valley.

31. (currently amended) The method of Claim ~~21~~1, wherein calculating workforce requirements includes dynamic standard assignment, wherein different metrics are selected at different times.

32. (original) The method of Claim 31, wherein at least one task is associated with a plurality of standards.

33. (original) The method of Claim 31 wherein selection of metrics at a specific time is responsive to conditions at the specific time.

34. (original) The method of Claim 33, wherein at least one condition is outdoor temperature.

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35. (currently amended) The method of Claim 1, further comprising:

defining an event calendar in the computer system; and

selecting at least one event from the event calendar such that the event is considered in the step of forecasting.

36. (original) The method of Claim 35, wherein, if a selected event does not occur during the forecast period, its influence is removed from the forecast if the event occurred during a corresponding period from which the historical data was taken.

37. (original) The method of Claim 35, wherein if a selected event occurs during the forecast period, its influence is added to the forecast if the event did not occur during a corresponding period from which the historical data was taken.

38. (currently amended) The method of Claim 35, further comprising:

defining an event in the computer system to be associated with at least one category in the forecast structure.

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39. (original) The method of Claim 35, wherein a plurality of events can be selected for a particular day.

40. (currently amended) The method of Claim 35, further comprising:

when calculating forecast values for an upcoming day marked with an event, searching in the computer system, for dates marked with the same event marker;

upon finding such a date, calculating in the computer system a ratio of volume activity associated with said date to the volume activity of plural days surrounding said date;

calculating in the computer system a forecast for the upcoming day as if it were a normal, non-event day; and

adjusting in the computer system the forecast by the calculated ratio.

41. (original) The method of Claim 40, wherein the steps of calculating a ratio, calculating a forecast, and adjusting the forecast are executed for each business volume.

42. (original) The method of Claim 1, wherein business volume types are user-definable.

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43. (original) The method of Claim 42, wherein business volume types comprise any or all of sales volume, number of transactions, and number of items.

44. (currently amended) The method of Claim 1, further comprising:

tracking in the computer system only a subset of volume types at a particular location.

45. (original) The method of Claim 1, wherein the forecast structure comprises plural hierarchical levels of categories.

46. (currently amended) A business volume and workforce requirements forecasting system, comprising:

a business structure;

a forecast structure, wherein certain hierarchical levels of the forecast structure map to corresponding hierarchical levels in the business structure;

a volume forecaster which forecast business volume responsive to historical data and to the business and forecast structures; and

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a workforce requirements engine which forecasts workforce requirements responsive to the forecast business volume,

wherein the workforce requirements engine performs resource leveling.

47. (original) The system of Claim 1, wherein the volume forecaster forecasts business volumes at plural levels of the forecast structure.

48. (original) The system of Claim 46, wherein at least one hierarchical level of the forecast structure which maps to a corresponding hierarchical level in the business structure is any of location, job and department.

49. (original) The system of Claim 48, wherein a location is divided into a plurality of sub-locations.

50. (original) The system of Claim 46, wherein the certain hierarchical levels in the forecast structure are at different depths within the forecast structure than the corresponding hierarchical levels in the business structure.

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51. (original) The system of Claim 46, wherein the volume forecaster comprises:

a volume forecast engine which forecasts business volume for a predefined duration, responsive to a first set of historical data and to the business and forecast structures, wherein the workforce requirements engine is responsive to the volume forecast engine.

52. (original) The system of Claim 51, wherein the volume forecast engine uses a daily trend forecasting algorithm.

53. (original) The system of Claim 51, wherein volume forecast engine uses an exponential smoothing algorithm.

54. (original) The system of Claim 51, wherein the volume forecaster comprises:

a traffic pattern engine which forecasts business volume based on traffic patterns over a second set of historical data, wherein the workforce requirements engine is responsive to the traffic pattern engine.

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55. (original) The system of Claim 54, wherein the second set of historical data is independent of the first set.

56. (original) The system of Claim 54, wherein the first and second sets of historical data overlap.

57. (original) The system of Claim 54 wherein the forecast traffic pattern is a composite of historical data from a plurality of selected dates.

58. (original) The system of Claim 57, wherein a predetermined number of dates are selected which best match designated criteria.

59. (original) The system of Claim 58, wherein designated criteria include same day of week, nearest day, event ratio and same open/close time.

60. (original) The system of claim 59, wherein the criteria is weighted.

61. (original) The system of Claim 46, wherein workforce requirements engine performs task level consolidation.

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62. (original) The system of Claim 61, wherein the workforce requirements engine schedules a specific task within a job according to at least one standard with which the task is associated, and wherein the workforce requirement engine consolidates the scheduled tasks into a job schedule.

63. (original) The system of Claim 62, wherein a decision to apply a standard is based on economy of scale.

64. (canceled)

65. (currently amended) The system of Claim ~~64~~46, wherein the workforce requirements engine determines valleys in a preliminary schedule, ranks the valleys, and assigns at least one unassigned task to a highest-ranked valley.

66. (original) The system of Claim 65, wherein valleys are ranked based on their depth and width.

67. (currently amended) The system of Claim 66, wherein each valley's ~~ranked~~ rank is computed as (D/W)*C, wherein

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D is the valley's depth;

W is the valley's width; and

C is the valley's rounding cost.

68. (original) The system of Claim 65, wherein the workforce requirements engine determines peaks in the preliminary schedule, said peaks determining the valleys.

69. (original) The system of Claim 65, wherein the at least one unassigned task is assigned to a lowest portion of the highest-ranked valley.

70. (original) The system of Claim 46, wherein calculating workforce requirements includes dynamic standard assignment, wherein different metrics are selected at different times.

71. (original) The system of Claim 46, further comprising:

an event ratio engine, responsive to an event calendar, which selects at least one event from the event calendar, the event to be considered by the volume forecaster.

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72. (original) The system of Claim 71, wherein, if a selected event does not occur during the forecast period, its influence is removed from the forecast if the event occurred during a corresponding period from which the historical data was taken.

73. (original) The system of Claim 71, wherein if a selected event occurs during the forecast period, its influence is added to the forecast if the event did not occur during a corresponding period from which the historical data was taken.

74. (original) The system of Claim 71, an event is associated with at least one category in the forecast structure.

75. (original) The system of Claim 71, wherein a plurality of events are associated with a particular day.

76. (original) The system of Claim 71, wherein, upon finding a historical date marked with an event marker which corresponds to a forecast date for which a forecast is being performed, the event ratio engine calculates a ratio of volume activity associated with said historical date, calculates a forecast date as if it were a

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normal, non-event day, and adjusts the forecast by the calculated ratio.

77. (original) The system of Claim 76, wherein the event ratio engine calculates a ratio and adjusts a forecast for each business volume.

78. (original) The system of Claim 46, wherein business volume types are user-definable.

79. (original) The system of Claim 78, wherein business volume types comprise any or all of sales volume, number of transactions, and number of items.

80. (original) The system of Claim 1, wherein only a subset of volume types at a particular location are tracked.

81. (original) The system of Claim 46, wherein the forecast structure comprises plural hierarchical levels of categories.

82. (currently amended) A business volume and workforce requirements forecasting system, comprising:

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means for defining a business structure;

means for defining a forecast structure, wherein certain hierarchical levels of the forecast structure map to corresponding hierarchical levels in the business structure;

means for forecasting business volume, responsive to the business and forecast structures; ~~and~~

means for forecasting workforce requirements, responsive to the forecasting business volume means, and

resource leveling means, responsive to said forecasting workforce requirements means and to resource-leveling tasks.

83. (original) The system of Claim 82, wherein means for forecasting business volumes comprises at least one of:

means for forecasting business volume for a predefined duration, responsive to a first set of historical data; and

means for forecasting a traffic pattern for the predefined duration, responsive to a second set of historical data.

84. (original) The system of Claim 82, further comprising:

means for selecting at least one event from an event calendar such that the event is considered by said forecasting business volumes means.

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85. (canceled)

86. (currently amended) A computer program product for forecasting business volume and workforce requirements, the computer program product comprising a computer usable medium having computer readable code thereon, including program code which:

provides means for defining a business structure;

provides means for defining a forecast structure, wherein certain hierarchical levels of the forecast structure map to corresponding hierarchical levels in the business structure;

forecasts business volume, responsive to the business and forecast structures; ~~and~~

forecasts workforce requirements, responsive to the forecasting business volume means;

forecasts a traffic pattern in the computer system for the predefined duration, responsive to a second set of historical data; and

calculates workforce requirements in the computer system for the predefined duration, based on the forecast business volume and

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on the forecast traffic pattern, including program code which levels resources having program code which

determines valleys in a preliminary schedule,

ranks the valleys,

assigns at least one unassigned task to a highest-ranked valley, and

repeats the steps of determining peaks, determining valleys, ranking the valleys and assigning at least one unassigned task.

87. (currently amended) A computer data signal embodied in a carrier wave for forecasting business volume and workforce requirements, comprising:

program code for defining a business structure;

program code for defining a forecast structure, wherein certain hierarchical levels of the forecast structure map to corresponding hierarchical levels in the business structure;

program code for forecasting business volume, responsive to the business and forecast structures; ~~and~~

program code for forecasting workforce requirements, responsive to the forecasting business volume means;

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program code for forecasting a traffic pattern in the computer system for the predefined duration, responsive to a second set of historical data; and

program code for calculating workforce requirements including resource leveling in the computer system for the predefined duration, based on the forecast business volume and on the forecast traffic pattern,

wherein the program code for resource leveling comprises

program code for determining valleys in a preliminary schedule,

program code for ranking the valleys,

program code for assigning at least one unassigned task to a highest-ranked valley, and

program code for repeating the steps of determining peaks, determining valleys, ranking the valleys and assigning at least one unassigned task.

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